

FlexFiles

The Future of Cost Analysis



FlexFiles: Objectives

A Win-Win Government and Industry Partnership

OSD CAPE

Today's Shortcomings

CCDR Data

- Time consuming to industry
- No details below the CCDR functional labor categories
- Allocations are not transparent
- Limited Data sampling over time
- Allows for human error

Ad-Hoc Data Calls

- Time consuming to industry
- Requires burdensome site visits
- Limited Access to Data
- Allows for human error

The FlexFile Solution

Increase Efficiency:

- Collect data according to the contractor's management structure
- Removal of legacy 1921 forms
- Reduce ad hoc/supplemental government data collection efforts
- Much easier and less time consuming for Industry – allows them to reduce back end support
- Automation: data flows directly from contractor systems into ours

Improving Data Quality:

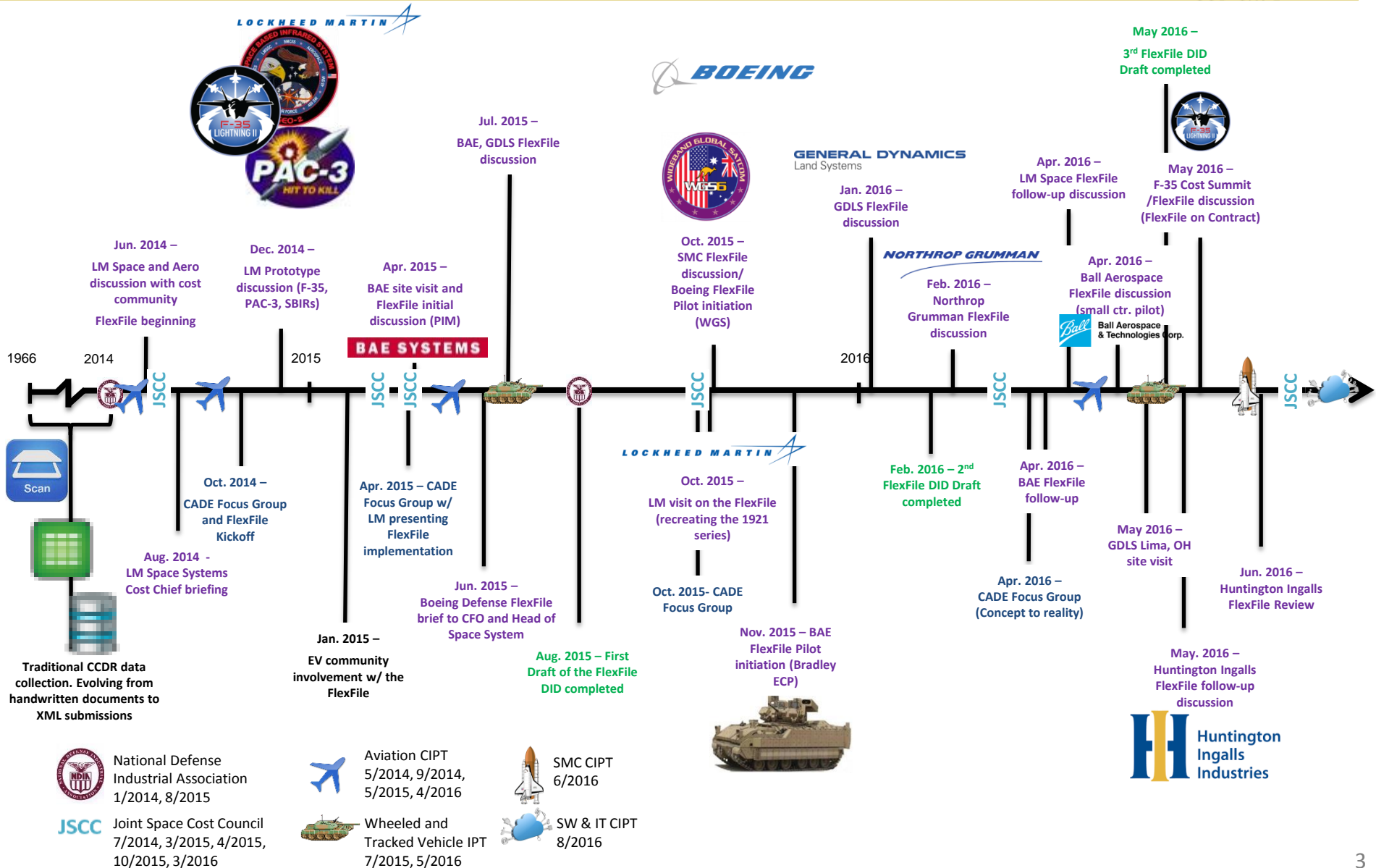
- Eliminate Human Error/Subjectivity
- Collect raw data, and use technology to eliminate arbitrary allocations and errors
- Consistent application of Mil-STD-881C to both EV and CSDR data – data Alignment
- Review and mapping pre-contract award

Ensure Completeness:

- Provides much more insight and analysis flexibility
- Annual submissions
- Receive data over time
- Include cost and supporting technical data

History of the FlexFile Effort

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Merging Two Different Data Use Cases

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Analysts Focused on Single Program:

- Requires detailed understanding of one program
- Develops & defends programs budget submissions
- Supports PM, FM, Logistics, & contracting officer
- Needs to talk contractor's language



Analysts Focused on Early Alternatives and/or Independent Estimates:

- Requires general understanding of many programs
- Discerns highest effectiveness alternatives from different solutions
- Evaluates realism of budget submissions in context of broader historical experience
- Needs to compare systems from many contractors/programs

Needs: Detailed data on one specific program over time

Needs: Translatable data across many programs over time

The cases are dissimilar, but not mutually exclusive.

A program cost analyst may be asked to show comparisons, a generalist may need to dig into detailed data to understand what's going on over time.

Today's Burdensome 1921 Process

1921, 1921-1 formatted CCDRs today require an average of 533 hours per contract, assuming set-up and 4 reports

SECURITY CLASSIFICATION: Unclassified

FUNCTIONAL COST-HOUR REPORT

DD FORM 1921-1, MAY 2011

1. MAJOR PROGRAM NAME
a. PROJECT ESTIMATE
b. A. B. C. D. E. F. G. H. I. J. K. L. M. N. O. P. Q. R. S. T. U. V. W. X. Y. Z. AA. AB. AC. AD. AE. AF. AG. AH. AI. AJ. AK. AL. AM. AN. AO. AP. AQ. AR. AS. AT. AU. AV. AW. AX. AY. AZ. BA. BB. BC. BD. BE. BF. BG. BH. BI. BJ. BK. BL. BM. BN. BO. BP. BQ. BR. BS. BT. BU. BV. BW. BX. BY. BZ. CA. CB. CC. CD. CE. CF. CG. CH. CI. CJ. CK. CL. CM. CN. CO. CP. CQ. CR. CS. CT. CU. CV. CW. CX. CY. CZ. DA. DB. DC. DD. DE. DF. DG. DH. DI. DJ. DK. DL. DM. DN. DO. DP. DQ. DR. DS. DT. DU. DV. DW. DX. DY. DZ. EA. EB. EC. ED. EE. EF. EG. EH. EI. EJ. EK. EL. EM. EN. EO. EP. EQ. ER. ES. ET. EU. EV. EW. EX. EY. EZ. FA. FB. FC. FD. FE. FF. FG. FH. FI. FJ. FK. FL. FM. FN. FO. FP. FQ. FR. FS. FT. FU. FV. FW. FX. FY. FZ. GA. GB. GC. GD. GE. GF. GG. GH. GI. GJ. GK. GL. GM. GN. GO. GP. GQ. GR. GS. GT. GU. GV. GW. GX. GY. GZ. HA. HB. HC. HD. HE. HF. HG. HH. HI. HJ. HK. HL. HM. HN. HO. HP. HQ. HR. HS. HT. HU. HV. HW. HX. HY. HZ. IA. IB. IC. ID. IE. IF. IG. IH. II. IJ. IK. IL. IM. IN. IO. IP. IQ. IR. IS. IT. IU. IV. IW. IX. IY. IZ. JA. JB. JC. JD. JE. JF. JG. JH. JI. JJ. JK. JL. JM. JN. JO. JP. JQ. JR. JS. JT. JU. JV. JW. JX. JY. JZ. KA. KB. KC. KD. KE. KF. KG. KH. KI. KJ. KK. KL. KM. KN. KO. KP. KQ. KR. KS. KT. KU. KV. KW. KX. KY. KZ. LA. LB. LC. LD. LE. LF. LG. LH. LI. LJ. LK. LL. LM. LN. LO. LP. LQ. LR. LS. LT. LU. LV. LW. LX. LY. LZ. MA. MB. MC. MD. ME. MF. MG. MH. MI. MJ. MK. ML. MN. MO. MP. MQ. MR. MS. MT. MU. MV. MW. MX. MY. MZ. NA. NB. NC. ND. NE. NF. NG. NH. NI. NJ. NK. NL. NM. NO. NP. NQ. NR. NS. NT. NU. NV. NW. NX. NY. NZ. OA. OB. OC. OD. OE. OF. OG. OH. OI. OJ. OK. OL. OM. ON. OO. OP. OQ. OR. OS. OT. OU. OV. OW. OX. OY. OZ. PA. PB. PC. PD. PE. PF. PG. PH. PI. PJ. PK. PL. PM. PN. PO. PP. PQ. PR. PS. PT. PU. PV. PW. PX. PY. PZ. QA. QB. QC. QD. QE. QF. QG. QH. QI. QJ. QK. QL. QM. QN. QO. QP. QQ. QR. QS. QT. QU. QV. QW. QX. QY. QZ. RA. RB. RC. RD. RE. RF. RG. RH. RI. RJ. RK. RL. RM. RN. RO. RP. RQ. RR. RS. RT. RU. RV. RW. RX. RY. RZ. SA. SB. SC. SD. SE. SF. SG. SH. SI. SJ. SK. SL. SM. SN. SO. SP. SQ. SR. SS. ST. SU. SV. SW. SX. SY. SZ. TA. TB. TC. TD. TE. TF. TG. TH. TI. TJ. TK. TL. TM. TN. TO. TP. TQ. TR. TS. TT. TU. TV. TW. TX. TY. TZ. UA. UB. UC. UD. UE. UF. UG. UH. UI. UJ. UK. UL. UM. UN. UO. UP. UQ. UR. US. UT. UU. UV. UW. UX. UY. UZ. VA. VB. VC. VD. VE. VF. VG. VH. VI. VJ. VK. VL. VM. VN. VO. VP. VQ. VR. VS. VT. VU. VV. VW. VX. VY. VZ. WA. WB. WC. WD. WE. WF. WG. WH. WI. WJ. WK. WL. WM. WN. WO. WP. WQ. WR. WS. WT. WU. WV. WW. WX. WY. WZ. XA. XB. XC. XD. XE. XF. XG. XH. XI. XJ. XK. XL. XM. XN. XO. XP. XQ. XR. XS. XT. XU. XV. XW. XX. XY. XZ. YA. YB. YC. YD. YE. YF. YG. YH. YI. YJ. YK. YL. YM. YN. YO. YP. YQ. YR. YS. YT. YU. YV. YW. YX. YY. YZ. ZA. ZB. ZC. ZD. ZE. ZF. ZG. ZH. ZI. ZJ. ZK. ZL. ZM. ZN. ZO. ZP. ZQ. ZR. ZS. ZT. ZU. ZV. ZW. ZX. ZY. ZZ.

2. PERIOD OF PERFORMANCE
a. START DATE (YYYYMMDD)
b. END DATE (YYYYMMDD)

3. CUSTOMER (Direct Reporting Subcontractor Use Only)

4. TYPE ACTION
a. CONTRACT NO.
b. LATEST MODIFICATION
c. SUBMISSION NUMBER
d. SUBMISSION NUMBER
e. SUBMISSION NUMBER
f. SUBMISSION NUMBER
g. SUBMISSION NUMBER
h. SUBMISSION NUMBER
i. SUBMISSION NUMBER
j. SUBMISSION NUMBER
k. SUBMISSION NUMBER
l. SUBMISSION NUMBER
m. SUBMISSION NUMBER
n. SUBMISSION NUMBER
o. SUBMISSION NUMBER
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q. SUBMISSION NUMBER
r. SUBMISSION NUMBER
s. SUBMISSION NUMBER
t. SUBMISSION NUMBER
u. SUBMISSION NUMBER
v. SUBMISSION NUMBER
w. SUBMISSION NUMBER
x. SUBMISSION NUMBER
y. SUBMISSION NUMBER
z. SUBMISSION NUMBER

5. NAME (Last, First, Middle Initial)

6. DEPARTMENT

7. TELEPHONE NO. (Include Area Code)

8. EMAIL ADDRESS

9. DATE PREPARED (YYYYMMDD)

10. WBS ELEMENT CODE

11. WBS REPORTING ELEMENT

12. NUMBER OF UNITS TO DATE AND AT COMPLETION

13. COSTS AND HOURS INCURRED TO DATE (Thousands of U.S. Dollars or Thousands of Hours)

14. COSTS AND HOURS INCURRED AT COMPLETION (Thousands of U.S. Dollars or Thousands of Hours)

15. NONRECURRING

16. RECURRING

17. TOTAL

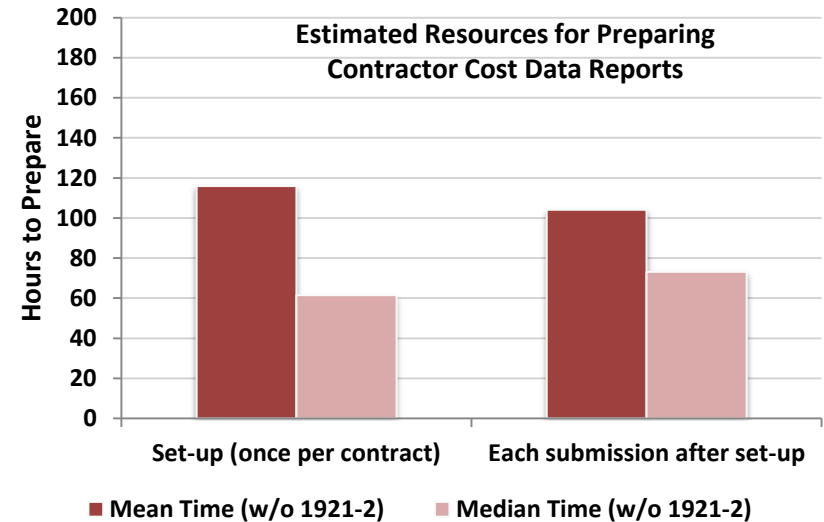
18. NONRECURRING

19. RECURRING

20. TOTAL

21. APPROPRIATION
a. DIRECT
b. INDIRECT
c. SUB

22. REMARKS



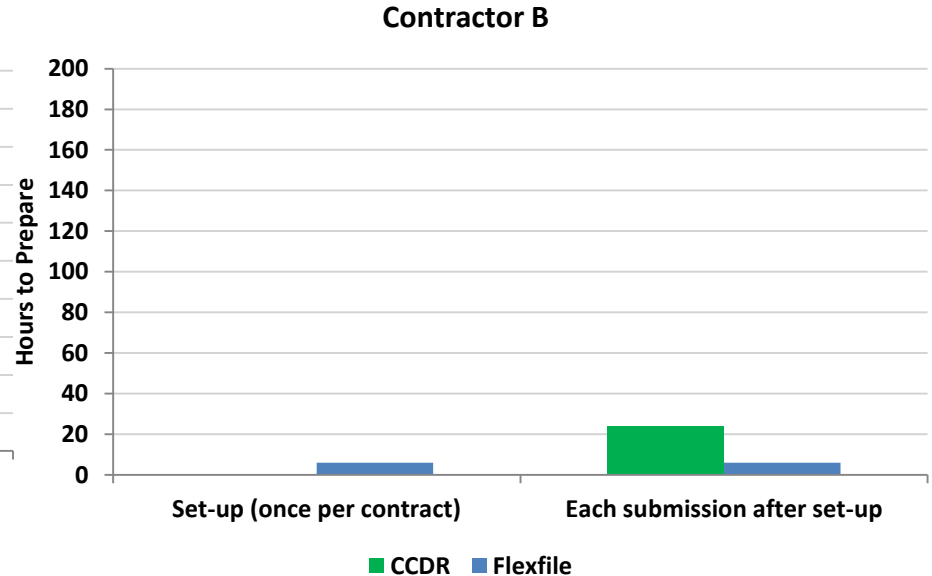
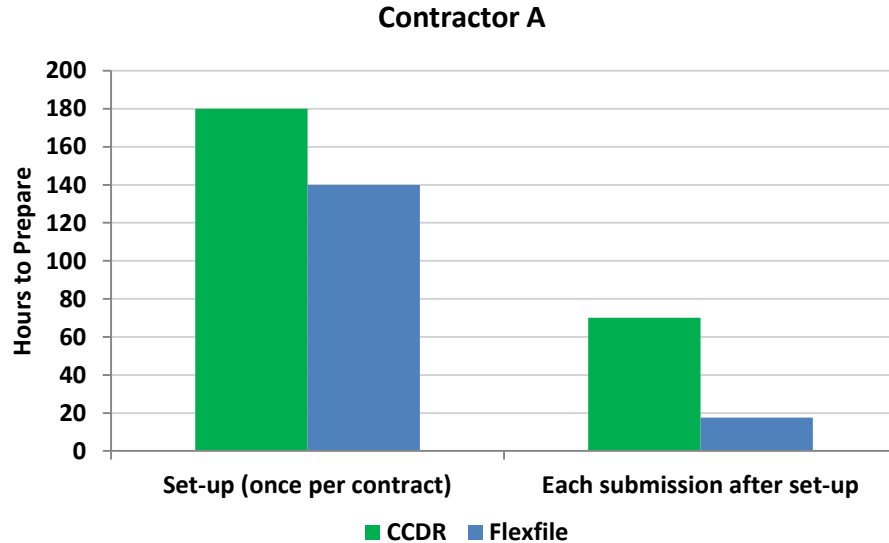
This is how we have collected contractor cost data for nearly 50 years

- Based on 2012 IDA Study *Estimated Resources for Preparing Contractor Cost Data Reports* [29 Responses]
- Data shows preparation time for WBS dictionary, 1921, and 1921-1
- When 1921-2 required, increased [median] set-up time by 25 hours and submission time by 60 hours

Efficiencies Realized

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Less time to produce a FlexFile than a CCDR report

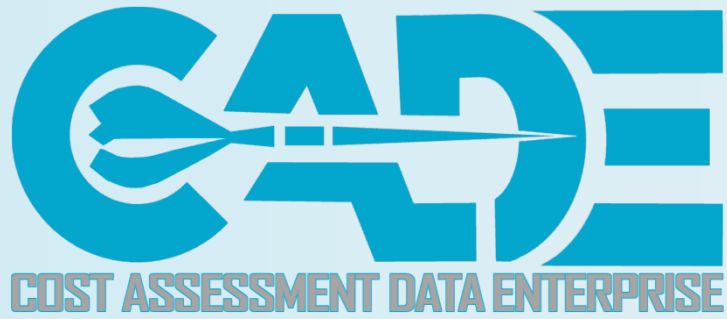


Contractor A:

- Complex program requiring post-extraction allocations
- FlexFiles covers 1921 & 1921-1
- Provided enough detail to replace 1921-2

Contractor B:

- Relatively simple program: did not require post-extraction allocations
- Provided manufacturing floor hours report
- Had automated CCDR reporting with scripts
(a best case that won't apply to all contracts)



FlexFile DID Overview (May/August 2016)



CAPE
COST ASSESSMENT & PROGRAM EVALUATION



FlexFile Draft DID (May/August 2016)

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A WBS Dictionary & Remarks

WBS Index
 Definitions by WBS
 Cost Content
 Work Content
 Supplier & GFE elements
 Contractor Remarks, Comments by
 WBS Element
 Direct-Reporting Subs

B Metadata

Program Name
 Contract #
 Approved Co-Plan #
 Contractor Name, Location, POC
 As of Date
 Submission Event Name
 Phase
 Report Type

C Contractor Cost Data Report

Unallocated Actual Costs & Hours
 WBS, Control Account, Work Package
 Data by Month
 Recurring vs. Nonrecurring
 CLIN & Lot
 Functional Rate (Gov & Internal)

D Contractor Cost Data Field Dictionary

Contractor Internal Accounting
 Data Field Descriptions

E Allocation Methodology

Contractor's Distribution of
 Unallocated Actual Costs
 Unit/Lot Level Allocation

As required by Co-Plan

F Estimates at Completion

Estimates at Complete (EAC) by WBS
 Element (as required by Co-Plan)

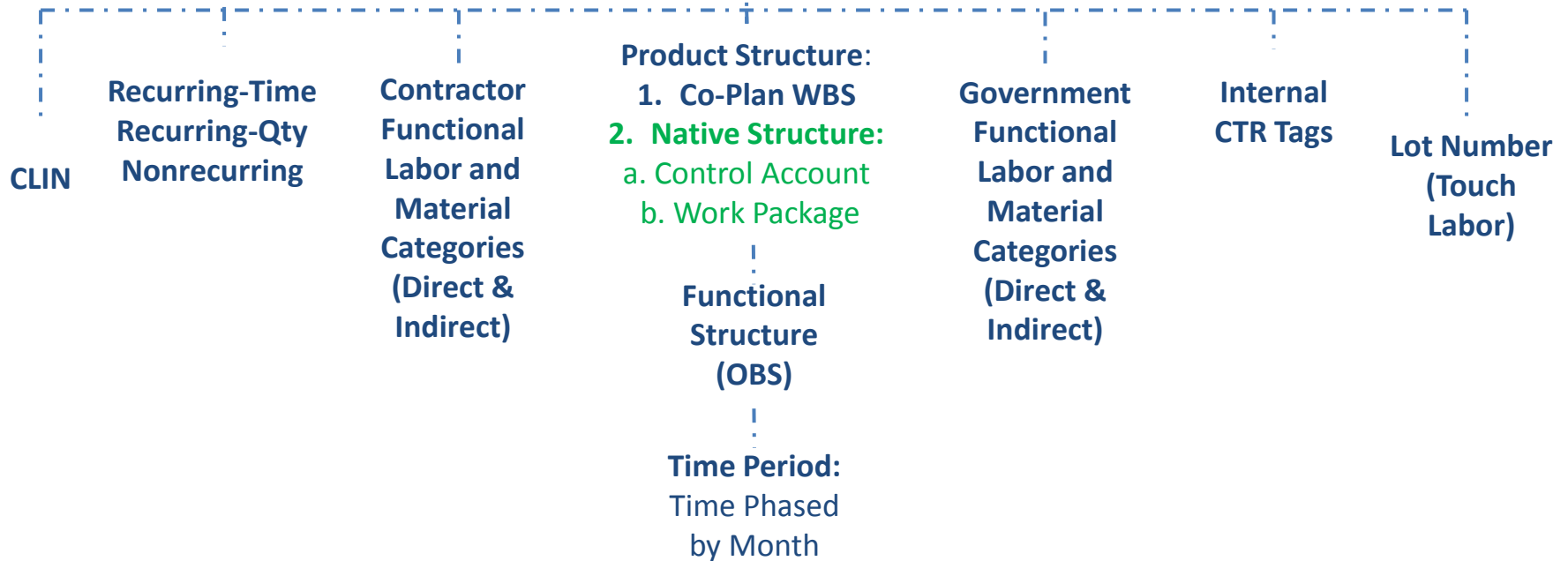
G Supplemental Information

MRP Floor Hours Report

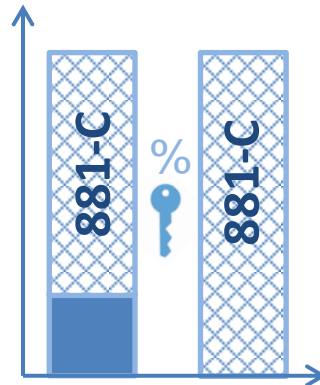
FlexFile Data Group C: Contractor Cost Data Report

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Actual Cost & Hours To Date



FlexFile Data Group E: Allocation Methodology



**Insight into Cost
Accounts &
Unallocated Data
& Allocation
Methodology**

- An Allocation is defined as any modification to the data performed by the contractor after extraction from their information system(s)
- The Allocation Methodology provides the rationale for the contractor's distribution of unallocated costs to the WBS elements as specified in the Co-Plan.

Allocations to:

- WBS elements, Recurring vs. Nonrecurring, functional labor category or unit/lot level allocations
- Assigned to the lowest level WBS element

FlexFile Data Group F: Estimates at Complete

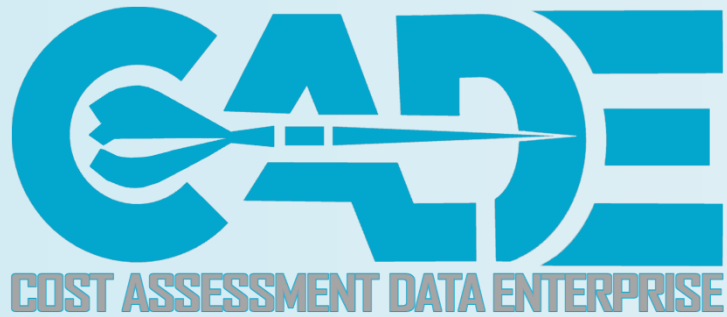
Cost & Hour Estimates At Completion



**Contractor
Functional
Labor and
Material
Categories
(Direct &
Indirect)**

**WBS Element Code
&
WBS Element Name**
(as required by the Co-Plan;
baseline discussion starts level 4)

**Recurring-Time
Recurring-Qty
Nonrecurring**



FlexFile Pilots and Path Forward



CAPE

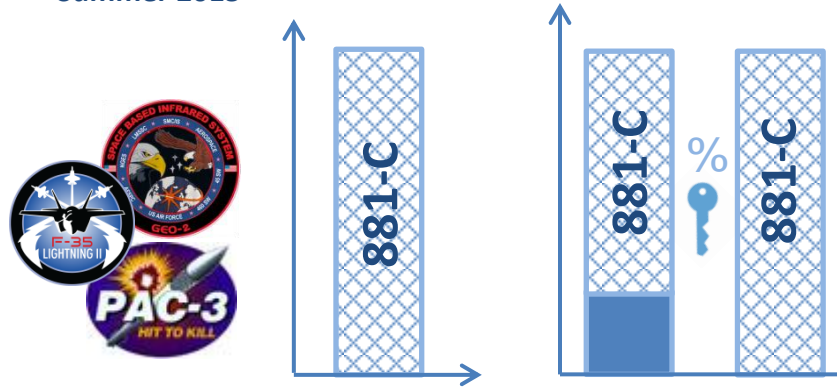
COST ASSESSMENT & PROGRAM EVALUATION

FlexFile Evolution

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Summer 2014 –
Summer 2015

SEP – DEC 2015



Concept
Definition

Insight into Cost
Accounts &
Re-Create 1921

(LRIP Allocated Program)

BAE SYSTEMS
(Development Program)

Insight into Cost
Accounts &
Unallocated Data
& Allocation
Methodology

BOEING
(Production Program
with Allocation Table)

August 6, 2015: Developed FlexFile DID for pilots & feedback from government and industry:

- Established Process for FlexFile prototypes with industry partners

Creation of working-level government teams:

- CAPE/DCARC leadership socialized pilots with contractor/government leadership
- Government teams reviewed data/compared with other reports

Identification of pilot programs with Lockheed, Boeing, and BAE Systems

- Discussed current CCDR generation practice & data systems with contractors
- Mapped instruction data fields to contractor data fields in 4-6 hour meetings w/contractors
- Reviewed LM data provided in Sep 2015
- Boeing/BAE generated FlexFile and provided walk-through by telecon

Round 1 Pilots
(Aug. 2015 DID)

Instruction feedback/lessons learned folded into FlexFile Pilot Round 2 draft DID, dated February 5, 2016



Contractor 881C Cost Accumulation



Contractor Unallocated Total Cost Bins



Government Analyst Allocation

Path to FlexFile

OSD CAPE

Summer 2014 –
Summer 2015

September – December 2015

FEB – AUG 2016

MAR – AUG 2016

Future



Concept
Definition

Insight into Cost
Accounts &
Re-Create 1921

Insight into Cost
Accounts &
Unallocated Data
& Allocation
Methodology

Round 2 Pilots:

- Small Ctr
- Sustainment
- Ship and WTV
- Process Oriented
- WBS

IT Development

XML Schema design

Software App Dev

- XML Ingest
- Data export

Allocation and
mapping matrix
provided for
contractor and
government
analysts

Once we can prove through the pilot that a program can submit a FlexFile with an allocation matrix – we are ready to work with you to replace the CCDD requirement with a FlexFile



FlexFile Critical Path

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CRAWL

June 2016 – December 2016

Immediate change that can easily be executed

-Tailored
FlexFile DID

- XLS FlexFile
submission

- Recreate 1921, -1;
Consistent w/-2

WALK

January 2017 – June 2017

Near-term change that can be executed once processes are streamlined

-Approved
FlexFile DID

- Define FlexFile XML
schema

RUN

July 2017 - Future

Long-term change executed by a mature organization

- XML FlexFile
submission

- 1921-T
submission